What is claimed is:

1. Apparatus for entropy-encoding a symbol sequence of information symbols to obtain entropy-encoded information symbols, the symbol sequence having a start symbol, comprising:

an arithmetic encoder for arithmetically encoding a symbol of the symbol sequence based on probability information for the symbol, the symbol being part of a symbol set, to produce the entropy-encoded information symbols;

a context modeler for deriving the probability information for the symbol based on a context of the symbol, the context including one or more context symbols processed by the arithmetic encoder prior to processing the symbol, the context modeler including an initializer for initializing the context modeler by determining and providing initialization probability information to the arithmetic encoder, the initialization probability information to be used by the arithmetic encoder for processing the start symbol,

wherein the initializer is operative to determine the initialization probability information based on an estimation of symbol statistics relating to the start symbol such that an initialization probability distribution is different from an equi-probable distribution for all symbols of the symbol set.

2. Apparatus in accordance with claim 1, in which the information symbols are derived from quantized input values, the quantized input values being derived from input values by means of a quantizing algorithm controlled by a quantizing parameter, and

in which the initializer is operative to determine the initialization probability information dependent on the quantizing parameter.

5   3.   Apparatus in accordance with claim 2, in which the initializer is operative to linearly derive the initialization probability information from the quantizing parameter.

4.   Apparatus in accordance with claim 3, in which the initializer is operative to calculate the initialization probability information based on the following equation:

$$y = m \times QP + n,$$

15   wherein y is an initialization variable, QP is the quantizing parameter, m is a predetermined gradient information, and n is a predetermined y offset information,

wherein the initializer is operative to obtain the initialization parameters m, n by accessing a memory, in which the initialization parameters are stored, using a context index for the start symbol.

5.   Apparatus in accordance with claim 1, in which the information symbols in the symbol sequence are derived from a plurality of different types of information, and

in which the initializer is operative to detect the type of information to which the symbol sequence to be processed by 30   the arithmetic encoder belongs to, and

in which the initializer is further operative to determine the initialization probability information for the start symbol based on detected type of information.

5   6.   Apparatus in accordance with claim 5, in which the different types of information include, as a first type, video data belonging to an I slice OR an SI slice, and, as a second type, video data belonging to a P slice, a SP slice or a B slice.

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7.   Apparatus in accordance with claim 6, in which there exist different sub-types of information for video data of a P slice, a SP slice or a B slice,

15   in which the initializer is operative to determine the initialization probability information based on detected sub-type of information, and

in which the initializer is further operative to signal the
20   detected sub-type by means of an initialization index.

8.   Apparatus in accordance with claim 1, in which the symbol set is binary and includes only a binary "1" and a binary "0" as the symbols, and

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in which the equi-probable distribution is 0.5 for each symbol.

9.   Apparatus in accordance with claim 1, in which the con-
30   text modeler is operative to determine a probability of the least probable symbol and the value of the most probable symbol as the probability information.

10. Apparatus in accordance with claim 1, in which the initializer is operative to determine the probability information of the least probable symbol and a value of the most probable symbol as the initialization probability information.

11. Apparatus in accordance with claim 1, in which some of the information symbols are derived from transformed residual data, the residual data representing a spatial-domain prediction error of the predicted video signal compared to an actual video signal.

12. Apparatus in accordance with claim 1, in which the information symbols represent video data, in which video data are organized into slices, a slice including a plurality of macroblocks, a macroblock including a plurality of transformed residual values, a slice including a slice header and a first transform coefficient, wherein a first bit of a binarized representation of the first transform coefficient is the start symbol.

13. Apparatus in accordance with claim 1, in which the symbol set has an estimated a priori symbol statistics including an expected probability for a symbol in the symbol set, and

in which the initializer is further operative to determine the initialization probability information based on the a priori known symbol statistics.

14. Method of entropy-encoding a symbol sequence of information symbols to obtain entropy-encoded information symbols, the symbol sequence having a start symbol, comprising the following steps:

arithmetically encoding a symbol of the symbol sequence based on probability information for the symbol, the symbol being part of a symbol set, to produce the entropy-encoded informa-
5 tion symbols;

deriving the probability information for the symbol based on a context of the symbol, the context including one or more context symbols processed by the encoding step prior to proc-
10 essing the symbol, the step of deriving including the following step:

initializing the step of deriving by determining and providing initialization probability information to the encoding
15 step, the initialization probability information to be used by the encoding step for processing the start symbol,

wherein the initialization probability information is determined such that the initialization probability information
20 based on an estimation of symbol statistics relating to the start symbol such that an initialization probability distribution is different from an equi-probable distribution for all symbols of the symbol set.

25 15. Apparatus for entropy decoding entropy-encoded information symbols, the entropy-encoded information symbols being produced by arithmetically encoding a symbol of the symbol sequence based on probability information for the symbol, the symbol being part of a symbol set, wherein the probability
30 information for the symbol is derived based on a context of the symbol, the context including one or more context symbols processed earlier, and wherein, for arithmetically encoding the start symbol, an initialization probability information

was used, the initialization probability information being based on an estimation of a symbol statistics relating to a start symbol and being determined such that an initialization probability distribution is different from an equi-probable distribution for all symbols of the symbol set, comprising:

an arithmetic decoder for arithmetically decoding the entropy-encoded information symbols to obtain the symbol sequence of information symbols having the start symbol; and

a context modeler for obtaining the probability information used when arithmetically encoding the sequence of information symbols, context modeler including an initializer for obtaining the initialization probability information used when arithmetically encoding the start symbol.

16. Apparatus in accordance with claim 15, in which the symbol set has an estimated a priori symbol statistics including an expected probability for a symbol in the symbol set, and in which the initializer is operative to determine the initialization probability information based on the a priori symbol statistics.

17. Apparatus in accordance with claim 15, in which the initializer is operative to extract information on the initialization probability information from a data stream, which includes the entropy-encoded information symbols.

18. Apparatus in accordance with claim 17, in which the data stream includes a header, and in which the initializer is operative to parse the header for extracting information on the initialization probability information used for arithmetically encoding the start symbol.

19. Method of entropy decoding entropy-encoded information symbols, the entropy-encoded information symbols being produced by arithmetically encoding a symbol of the symbol sequence based on probability information for the symbol, the symbol being part of a symbol set, wherein the probability information for the symbol is derived based on a context of the symbol, the context including one or more context symbols processed earlier, and wherein, for arithmetically encoding the start symbol, an initialization probability information was used, the initialization probability information being based on an estimation of a symbol statistics relating to a start symbol and being determined such that an initialization probability distribution is different from an equi-probable distribution for all symbols of the symbol set, comprising the following steps:

arithmetically decoding the entropy-encoded information symbols to obtain the symbol sequence of information symbols having the start symbol; and

context modeling for obtaining the probability information used when arithmetically encoding the sequence of information symbols, the step of context modeling including the step of initializing for obtaining the initialization probability information used when arithmetically encoding the start symbol.

20. Computer program having instructions for performing, when running on a computer, a method of entropy-encoding a symbol sequence of information symbols to obtain entropy-encoded information symbols, the symbol sequence having a start symbol, comprising the following steps:

arithmetically encoding a symbol of the symbol sequence based on probability information for the symbol, the symbol being part of a symbol set, to produce the entropy-encoded information symbols;

deriving the probability information for the symbol based on a context of the symbol, the context including one or more context symbols processed by the encoding step prior to processing the symbol, the step of deriving including the following step:

initializing the step of deriving by determining and providing initialization probability information to the encoding step, the initialization probability information to be used by the encoding step for processing the start symbol,

wherein the initialization probability information is determined such that the initialization probability information based on an estimation of symbol statistics relating to the start symbol such that an initialization probability distribution is different from an equi-probable distribution for all symbols of the symbol set.

21. Computer program having instructions for performing, when running on a computer, a method of entropy decoding entropy-encoded information symbols, the entropy-encoded information symbols being produced by arithmetically encoding a symbol of the symbol sequence based on probability information for the symbol, the symbol being part of a symbol set, wherein the probability information for the symbol is derived based on a context of the symbol, the context including one or more context symbols processed earlier, and wherein, for arithmetically encoding the start symbol, an initialization

probability information was used, the initialization prob-
ability information being based on an estimation of a symbol
statistics relating to a start symbol and being determined
such that an initialization probability distribution is dif-
5   ferent from an equi-probable distribution for all symbols of
the symbol set, comprising the following steps:

arithmetically decoding the entropy-encoded information sym-
bols to obtain the symbol sequence of information symbols
10   having the start symbol; and

context modeling for obtaining the probability information
used when arithmetically encoding the sequence of information
symbols, the step of context modeling including the step of
15   initializing for obtaining the initialization probability in-
formation used when arithmetically encoding the start symbol.